

E.B. Eddy Forest Products Ltd.

Espanola, Ontario

"Using tall oil as a fuel in the lime kiln improves our production process. The flexibility to use this renewable resource instead of natural gas for fuel or to sell it for a fair price on the open market has removed another potential problem in the production of pulp."

T.W. Morrow
Pulping Superintendent
Espanola Mill
E.B. Eddy Forest Products Ltd.

THE COMPANY

E.B. Eddy Forest Products is a leading manufacturer of fine, specialty and packaging grade kraft papers. The company's mills at Espanola and Ottawa, Ontario, Hull, Québec, Annacis Island, B.C., and Port Huron, Michigan, produce an average of 1,310 tonnes of paper per day.

E.B. Eddy's largest facility is a kraft pulp mill at Espanola. This plant employs 820 staff and produces 1,000 tonnes per day of bleached pulp. Fifty three per cent of production is from hardwood timber while the rest is from softwood sources. The mill at Espanola supplies 52 per cent of the virgin pulp used by its two paper machines and nine others at company plants.

The company's environmental policy is to "go beyond compliance". Eighty per cent of the softwood fibre that is used by the mill at Espanola is wood waste from company sawmills. The mill gets most of its energy from a company owned hydro-electric plant and wood-fired cogeneration facility.

E.B. Eddy in 1977 was the first mill in North America to implement an oxygen delignification process, which reduced its use of bleaching chemicals by 50 per cent. The company is now working to eliminate elemental chlorine from its pulp bleaching operations.



E.B. Eddy's Espanola Mill is located on the Spanish River near Sudbury, Ontario.

THE CHALLENGE

E.B. Eddy faces a challenge to decrease natural gas consumption, reduce discharges to the environment, improve competitiveness, and recycle materials and chemical byproducts in its mill operations.

One such byproduct is tall oil. Tall oil is a resinous liquid that is created in the kraft pulping operation. Tall oil is acidic and combustible and needs special handling and storage. The Espanola plant each day produces between 16,000 and 19,000 litres of this material.

Tall oil can be sold, but the market and the price for the product are unstable. The company was faced with either selling the tall oil at a loss or building special storage tanks and increasing fire protection. E.B. Eddy approached the ministry for assistance to solve the problem.

OPPORTUNITIES

Tall oil can be burned as a fuel in the mill. This reduces the consumption of natural gas by the plant and eliminates the need for the storage tanks and the fire protection.

ACTION TAKEN

In 1994 with assistance from the ministry, E.B. Eddy invested \$718,000 to install a system to burn tall oil in its #1 Lime Kiln, which regenerates chemicals that are used in the kraft process. The tall oil burner supplements a natural gas burner.

RESULTS

The tall oil combustion system has saved annually over 100 million cubic feet (three million cubic meters) of natural gas and more than \$200,000 in operating costs. The need for tall oil storage tanks and extra fire protection has been eliminated. E.B. Eddy now can burn the tall oil as fuel or sell it when prices are favourable.

REPLICATION OPPORTUNITIES

Tall oil can be burned in any pulp mill which uses the kraft process. Several large pulp mills in Ontario already burn tall oil in their lime kilns.

PARTNERSHIP IN POLLUTION PREVENTION AND RESOURCE CONSERVATION

Industrial companies doing business in Ontario may seek ministry/industry services that will help them to:

- * use energy and water more efficiently
- * reduce, reuse and recycle solid waste, and
- * reduce or eliminate liquid effluent and gaseous emissions.

Equipment and services supply companies can benefit from the information provided on technologies identified for business development.

FOR MORE INFORMATION, PLEASE CONTACT:

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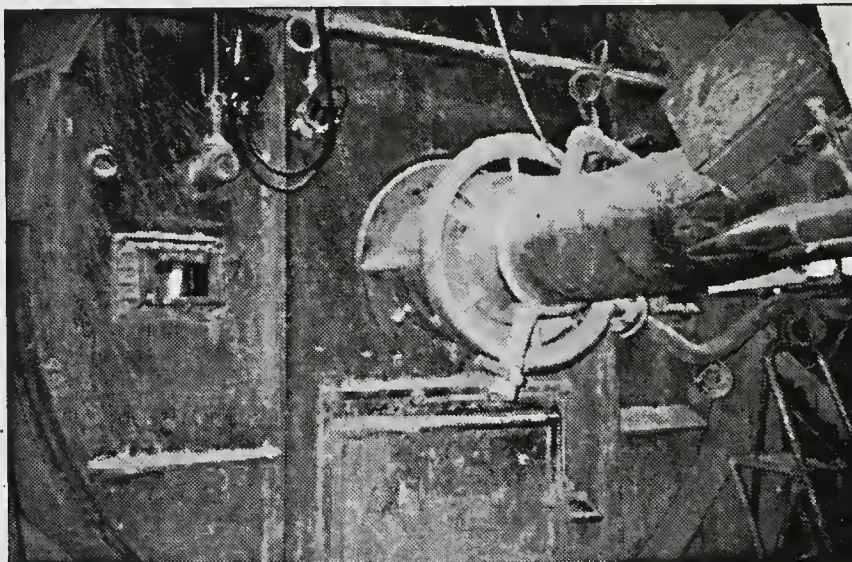
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MINISTRY OF THE ENVIRONMENT SERVICES

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For more project profiles and other publications, visit the ministry's website at <http://www.ene.gov.on.ca>



The hot flames of the lime kiln are fuelled by tall oil, a product of the pulping process.

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